

## LITERATURE CITED

- DAVIDSON, R. A. 1957. The flora of southeastern Iowa. Ph.D. Thesis. State University of Iowa Libraries.
- DURANT, W. 1953. The story of philosophy. Simon & Schuster. pp. 48-49.
- FERNALD, M. L. 1950. Gray's manual of botany. 8th Ed. American Book Co.
- GLEASON, H. A. 1933. Annotations of herbarium sheets. *Rhodora* 35: 41-43.
- . 1952. The new Britton and Brown illustrated flora of the northeastern United States and adjacent Canada. 3 Vols. New York Botanical Garden. Lancaster Press.
- STEBBINS, G. L., JR. 1950. Variation and evolution in plants. Columbia Univ. Press. p. 189.

## A NEW ZEPHYRANTHES FROM SOUTHERN TEXAS

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*Zephyranthes refugiensis* sp. nov. Bulbus subglobosus 2-2.7 cm. diam.; folia linearia; ad basim 2-3 mm. lat., usque ad 25 cm. long.; pedunculus 15-23 cm. alt.; spatha 2.2-2.8 cm. long. integra, fenestrata aut bifida, dimidio inferiore tubulari; pedicellus 8-16 mm. long.; perianthus erectus, tubo 1.5-2.4 cm. long., viridi; segmenta perianthi oblanceolata ad lanceolata, flava; stylus erectus, antheras attingens; stigma album breviter trilobatum.

Bulb subglobose, 2-2.7 cm. wide x 1.7-2.3 cm. high, tunics dark brown; neck 4-5 cm. long; leaves linear, 2-3 mm. wide at base, to 25 cm. long, grayish green, channelled on upper side, convex on lower side, apex subacute to rounded; peduncle 15-23 cm. high, 3-4 mm. wide at base, 2-3 mm. wide at apex, round to slightly flattened, one-flowered; spathe membranous, 2.2-2.8 cm. long, entire, fenestrate or bifid, the lower half tubular, purplish; pedicel 8-16 mm. long; ovary 4-6 mm. long, 3-4 mm. wide; perianth erect, 3.4-4.5 cm. long, the limb funnelform; perianth tube 1.5-2.4 cm. long, 2-3 mm. wide at base, 3-4 mm. wide at apex, yellowish green; perianth segments oblanceolate to lanceolate, yellow (Wilson, 2-3), greenish at base, often flushed with red on outside; petaline segments 20-28 mm. long, 7-11 mm. wide; sepaline segments approximately as long but usually 1 mm. wider; filaments inserted at the throat of the perianth tube, suberect, somewhat flattened, light greenish yellow; sepaline filaments 7-10 mm. long, petaline filaments usually 1 mm. longer; anthers versatile, suberect, affixed much below the middle, 8-10 mm. long at anthesis, the pollen orange-yellow; style erect, greenish below, white in the upper part, reaching apexes of filaments or even of anthers; stigma shortly three-lobed, white; capsule deeply three-lobed; seeds D-shaped, 5-6 mm. long, black.

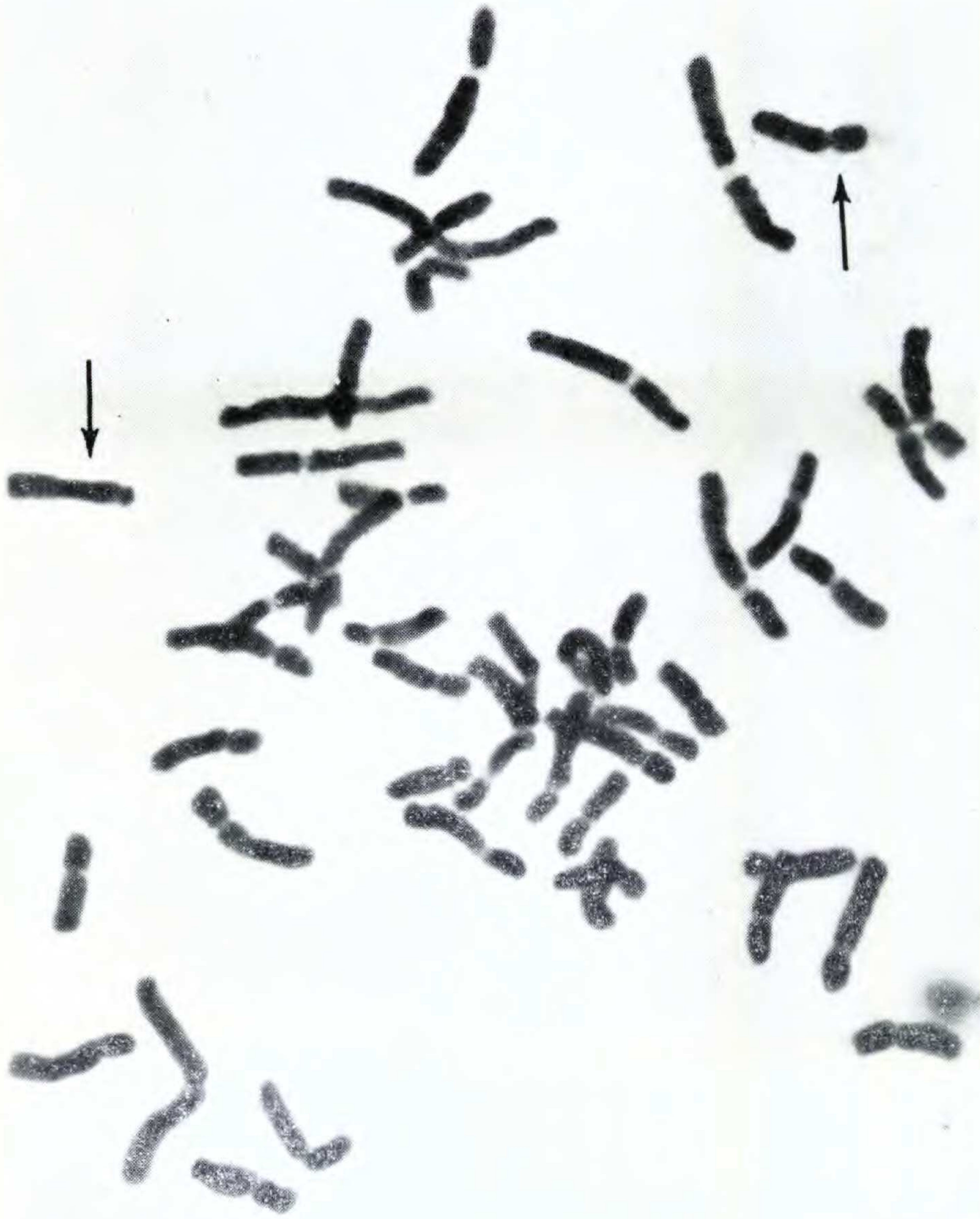


FIGURE I. Photomicrograph (X1500) of the somatic chromosome complement of *Zephyranthes refugiensis* ( $2n = 48$ ) from a colchicine-treated root tip squashed in 2% acetic orcein. Arrows indicate two of the chromosome types readily distinguishing *Z. refugiensis* from *Z. pulchella*. (Courtesy of R. O. Flagg, The Blandy Experimental Farm, Boyce, Va.)

TYPE: 1½ miles east of Refugio, Refugio County, Texas, Fred B. Jones 4353, Oct. 26, 1960, Welder Wildlife Foundation Herbarium (isotypes to be distributed).

The usual habitat of *Z. refugiensis* is an open swale, either in a brushy pasture or on prairie. The soil preference appears to be a tight sandy loam. Flowering occurs five to ten days after a heavy shower, at which time water to a depth of several inches is likely to be standing over the bulbs. A flush of bloom follows each substantial rain from July to November. Other rain lilies which may be present in the swales and come into flower at the same time as *Z. refugiensis* are *Z. pulchella*, *Cooperia Drummondii*, *C. Jonesii*, *C. Traubii* and *Habranthus texanus*.

*Z. refugiensis* is readily distinguished from *Z. pulchella*, to which it seems to have a close affinity, by the longer perianth tube. The lighter yellow perianth and decided fragrance are also distinctive characteristics. Flagg (Fig. 1) reports that the plant differs cytologically from *Z. pulchella*.

As presently known, the species is limited to northern and eastern Refugio County and a small adjoining area in Goliad County.<sup>1</sup> — WELDER WILDLIFE FOUNDATION, SINTON, TEXAS.

## MERGER OF THE NORTH AMERICAN HOUSTONIA AND OLDENLANDIA UNDER HEDYOTIS\*

WALTER H. LEWIS

Principally on the basis of seed, and to a lesser extent floral and fruit characteristics, the genera *Houstonia* L. and *Oldenlandia* L. are distinguished. A comparative study of these features for the North American species and, where possible, for the African *Oldenlandia* is presented using the following outline.

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<sup>1</sup>For making available the collections of rain lilies on deposit in their respective herbaria, I am grateful to the following: Dr. B. L. Turner, Herbarium of the University of Texas; Dr. F. W. Gould, Tracy Herbarium of A. & M. College of Texas; Dr. Lloyd Shinnars, Herbarium of Southern Methodist University.

Dr. Hanna Croasdale kindly prepared the Latin diagnosis.

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